



# ABACUS



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## ATARI BAY AREA COMPUTER USERS SOCIETY

1987

# ANOTHER DOUBLE ISSUE

**ANTIC SCORES** Gary Yost, Antic's Marketing Director once again demonstrated that demonstrations are demonstrably better when the demonstrator demonstrates knowledge of the software. (Lead sentences, on the other hand, are best written by writers with restricted vocabularies.) Gary's job was made easier by the quality of the programs. Cyber Control, Cyper Paint, and Spectrum 512 for the ST are squarely in the knock-your-sox-off category. The first enables even the chronic klutz to make those TV animations in which the image of your favorite politician can be made to turn sideways (revealing the lack of depth you always suspected) and then sail off into the depths of the tube. It automates the process of animating CAD 3D images. But my favorite is Spectrum 512 which puts all 512 colors on the screen at once and does curve smoothing to reduce the jaggies. The process actually provides thousands of "simulated colors", and a very close match of the Amiga's 4000+ color hold and modify mode.

**STILL NEEDED, ONE DISK LIBRARIAN** We need someone to carry on for Tom Tucker and work with **Tony Martinez** who will continue to maintain the library and copy the disks. All that is needed is to put the Disk of the Month together. Please volunteer. Call 753-8483. --Bill Zinn

### NEWSLETTER CONSTRUCTION SET

by Charles Cherry

### TONY CESNIK JOINS US

Tony Cesnik has volunteered to co-edit the ST section with Rob Re. His contribution is very welcome. This month we have articles by seven different club members. That's a very heartening sign for an editor. I encourage the rest of you to take the plunge.

It's now real easy to send articles, questions, classified ads, jokes, angry letters, and other items to the Newsletter. Just E-mail them to me, Charles Cherry, on the ABACUS BBS (587-8062). Printed matter, such as pictures, cartoons, type-set pages, etc. can be given to me, Rob Re, Tony Cesnik, Bill Zinn, or Warren Lorente. We need your input.

Get your articles to the editors by November 20, 1987

### NEWSLETTER RENEWALS

Check the expiration date on the mailing label of your copy of the newsletter. Don't let it expire on you. Fran Middleton circles the date in red when it expires; then we drop you. Keep your subscription current to keep yourself current.

### WHAT'S A TRANSPUTER?

Enough of newsletter business. According to InfoWorld, Atari

### Meetings

Next Meeting: Sat, NOVEMBER 7, 1987

December Meeting: Sat. Dec. 5, 1987

January Meeting: Sat. Jan. 9, 1987 ←

800/XL/XE 10:00 - 1:00 ST 12:00 - 3:00

19th Ave Diner, 19th Ave & Lincoln, San Francisco

PLEASE, Do not park in the Diner's lot

is going to show a new computer at Comdex, the first week of November. Although it's a desktop, it will be capable of speeds up to 10 million instructions per second (MIPS). That qualifies as a super-mini computer. The hypothetical computer is supposed to be ST compatible.

How is Atari going to do all of this? With the *transputer*. What's a transputer? Well, that's an interesting question. While the chip mavens in America and Japan strive to improve the Intel and Motorola CPUs, there are inventive people in other parts of the world pursuing original concepts. Among them are the people at Inmos in England. They have been inventing the transputer.

I've been following the development of the transputer in the pages of Byte and Electronics magazines for a couple of years. I don't understand it very well, but what it does is "parallel" or "distributed" processing. That means that work is divided up among the available processors. The more transputers you use, the faster things go. This is an incredibly complex concept, but Inmos transputers do it automatically. With these machines you can expand power the way you expand memory, just plug in more chips. Although a single transputer is a fast microprocessor by itself, thousands can be hooked together to produce speeds greater than the fastest Cray super mainframes.

The technology of parallel processors is still developing. Inmos has had the T-414 transputer for a couple of years. Last Spring they announced the more powerful T-800 which is in the Atari announcement. Personally, I think the future lies in parallel processors.

continued page 2





## NEWSLETTER CONSTRUCTION SET (cont.)

There is still just one puzzlement. How do they get ST compatibility. The transputer is not 68000 compatible and must be programmed in a difficult and complex language called Occam (although I understand that C, Pascal and some other languages have now been written in Occam, so there may be some options). There are two possibilities: software emulation or hardware co-processor. Software emulation (like PC Ditto) seems unlikely, given Atari's recent history. That means we are likely to see a transputer "accelerator board" using the ST as a front end. This is the way Atari described the old "TT" vaporware two years ago. Transputer accelerator boards became been available for the IBM clones this Summer.

In fact, such an item for the ST already exists. It's made by Kuma in England, uses the Inmos T-414 transputer, and is still a little primitive. Tom Hudson reviewed it in the Fall '87 START magazine. I suspect that Atari may be showing the next generation of that machine.

### DO THE MEGAS COST TOO MUCH?

A lot of people are griping about the high cost of the Megas. While they are expensive, they allow more room for dealer profit. It is hard to give up shelf space to a system which only brings a couple of hundred when sold at list price, and is ruthlessly discounted. Why not just stock Macs instead and make three times as much on the same sale?

Of course, in theory, the lower cost should translate into more sales. But that's only partly true, and more sales are not the same as more profit.

For those who can't afford a mega, there are the STs. And maybe the high price will make the world finally think of the Atari as a "serious" (i.e., overpriced) computer. I mean, who's going to pay \$3500 for a game machine?

## LIBRARY REPORT

by Ed Ness

This month I would like to thank JAY LONDON for the following magazine donations to the club's library: COMPUTER LANGUAGE, BYTE, ANALOG, ANTIC, ONLINE TODAY, and COMPUTE'S ATARI ST. I would like to also thank GEORGE FORMANEK for the ANTIC magazines. With members like these and the ones that I have mentioned in the past, the library will eventually have no gaps.

Here is a newer update of the missing magazines needed.

ANALOG #1 to 4; #6 to 9; #27 to 40; 49 to present.

ANTIC Vol.1 #2; Vol.2 #4 to 12; Vol.3 #10 to 12; Vol.4 #1 to 11; Vol.5 #2, 3,7,9; Vol.6 to present.

BYTE Vol.1 All; Vol.2 #5 to 12; Vol.8 #12; Vol.9 #9, 10 to 12; Vol.10 #1 to 6; Vol.11 #7, 8.

COMPUTE Vol.1 ,2 All; Vol.3 #1, 3, 6 to 9, 11; Vol.6 #10; Vol.7 to present.

Any ST MAGAZINES.

Now here are some more listings of articles that you can find in the computer magazines.

### DATA BASES:

ATARI DATA, ATARI FILE FIXER, CANNED CALCULATORS, CIRCUIT DATA BASE, CREATE-A-FONT DATAMAKER, DATA BASE PROGRAMS, DATA MANAGEMENT, DATA BASE, DIGITAL GARDNER, HEXPAD, RESTORING DATA, UPDATE DISKS WITH NOTE & POINT.

### PILOT:

A MUSICAL PILOT, ATARI PILOT, AUTOMATIC VARIABLES FOR THE ATARI PILOT, COLORS FOR YOUR PILOT, HOLIDAY TREES, LARGE TEXT, MAKING THE TURTLE COUNT, PILOT, PILOT AT THE HELM, SOUNDER, TELLING TIME IN PILOT, THE PILOT LANGUAGE, TURTLE PILOT PART II, TURTLE PILOT PART III.

More later.



## HERB CODE



### Herbaceous Matters

**WHO'S NEXT Dep't:** More on the alleged deal between Atari and Steve Jobs' Next! Inc. Supposedly Jobs wants Atari to produce the graphics chips for Jobs' forthcoming Next! computer. In return, Atari will get the right to use the chips in 'lower-priced' computers. The way I see it: 1) Jobs is going to the wrong people for help. Atari had trouble getting the Blitter chip made (not to mention the Amy chip). 2) Jobs is in deep trouble trying to get the Next! machine to market if he's talking to such outsiders as Jack Tramiel and H. Ross Perot. 3) The Atari-Next! deal (if any) has as much chance of survival as Joan Collins' next marriage!

**OPEN WIDE AND say 'ah':** Thanks to the service tech at a local Atari dealer, I got a chance last week to look inside a Mega ST 2.

**Purpose:** to determine the ease of upgrading to 4 meg. Unfortunately, all the holes in the motherboard that could contain the extra chips are sealed up when the board is wave-soldered. This means 320 (18 pins per chip + 2 for the associated capacitors X 16 chips) holes have to be desoldered before the RAMs can be installed.

On the other hand, the price difference between the Mega 2 and the Mega 4 is about twice the cost of 16 1-megabit RAM chips...Also interesting: Plenty of room in the case for an additional circuit board. The space above the bus connector is about half the size of the motherboard itself! How about a math co-processor and RAM up to 16 Meg. Or a hard disk on a card, ala IBM...Oddly, the Mega we opened up had only two ROM chips in it, instead of the six found in older STs. I assume that Atari has gone to higher capacity ROMs with the new version of TOS, but there are still sockets for six ROMs on the board. Mystery time...

**ALSO APPEARING** at a dealer near you, the 65 XEGS game machine. This is definitely recommended to those of you with a pastel button fetish or who want to 'collect the entire set' of Atari 8-bit products. The light gun aims high and to the left, like the old Atari light pen, and the keyboard cord is too short to allow you to put it in your lap and type. One new piece of technology, ROM cartridges that hold 256K, might be useful if properly developed. You could probably get a dynamite word processor with built-in spelling checker and thesaurus into 256K.

Or a fancy spreadsheet/database combo...Strange de George claims that the first product to take advantage of this will be a version of Antic Magazine entirely in a cartridge. It will be sold at supermarket checkout counters and, of course, will be titled 'Romantic'. Gee, thanks, George...

**REFRACTION retraction:** The Sega 3-D glasses mentioned last time don't work quite promised. With CAD-3D they show the left view to the right eye and vice versa. This results in reversed perspective, i.e., the far edge of an object appears nearer than the near edge. Sorry about that...

visit  
**messy\*s**  
on Turkey Day  
and meet  
the Trammels!



Yes, meet Astari's Sam, Gary and Leonard Trammel (left to right above) at Messy's Computer Center (d. 2FC) in our Downtown Store on Thanksgiving Day, November 26. They will be there to demonstrate the amazing new Astari Magna ST4 and the Astari Lazy Printer, along with such powerful new software as Werd Perfikt, Microsloth Fright Simulator, RIP Recessional, Crude-3D, Marble Sadness, Boesky Portfolio Manager and Blunderbrod's Print Slop. They will also be autographing copies of their new book 'Life with Father', the story of how Joke Trammel led Astari back from near-collapse to financial recovery. So come on down to Messy's and see what Astari serves up this Thanksgiving. Only at Messy's Downtown Store - Fifth Floor.

**messy\*s**  
CALIFORNIA

SHOP MOST MESSY'S MONDAY THROUGH FRIDAY 10 AM TO 9 PM. (MESSY'S DOWNTOWN OPEN AT 9:30 AM; SHOP MESSY'S NORTHGATE, EASTGATE, WESTGATE, WATERGATE AND PRUNERIDGE STORES 'TIL 9:47 PM; AND MESSY'S NORTHRIDGE, STONERIDGE, SOUTHGATE AND BALDRIDGE 'TIL 10:15 PM). SHOP MESSY'S SATURDAY HOURS: MESSY'S CORTE PULUMA AND SACATOMA TO OPEN 'TIL 9:20 PM; DOWNTOWN, UPTOWN AND STONESTOWN OPEN 'TIL 10 PM; BERZERKLEY 'TIL 2:45 AM.





## ATARI'S SMALL MIRACLES

By Mark A. Brown

reprinted from Current Notes, September 1987, Current Notes, Inc.,  
Sterling, Virginia.

## READER REQUESTS

Welcome back to Atari's Small Miracles, the column of short programs that you, yes YOU, can type in and complete in your lifetime! Hopefully this month's programs will teach you a little, occupy some of your time, and otherwise fill up space in your dull, dreary lives.

There is no real theme this month, just an answer to frequent reader requests. "Frequent" means two or more people have asked for it. So without further introduction, here we go.

## BARRIERS

Some people have requested programs that are fun, like the graphic demos, but that you actually participate in, like some of the other programs. This means games, and they don't want to say it outright because they know that they are difficult programs to work with, requiring ingenuity, patience, and a lot of time and frustration in the programming. So I yelled at myself for even thinking about asking myself to write one, sat down at my computer, and wrote BARRIERS. The rules are simple: you are the moving ball; you try to get the diamonds that are standing still, 18 of them; you can alter the course of the ball by pressing the "/" key, which will put a barrier of that shape in front of the ball, altering its course accordingly; you try to do so with as few barriers as possible. That's it! The final score is a ratio of barriers to diamonds caught. If your score is greater than three, you need LOTS of practice; between two and three you should get no more than once or twice when you first play; between one and two should be a consistently achievable score; if you get less than one (a theoretically possible score) you're doing incredibly well. Enjoy it!

## DATAENTR

Somebody recently accused me of going back on my word; the very first column of Atari's Small Miracles contained a phrase that (in effect) said I would never throw eye-straining hex data listings your way that would drive you nuts. I lied. So the least I could do would be to give you a little help in entering those programs. So here I present DATAENTR, a program that saves you a little typing by automatically putting in the line numbers and the DATA statement for you, letting you just type the data continuously.

Type in and RUN the program, telling it the beginning line number, increment, and final line number of the data. Thereafter you can simply type in the data (either hex or decimal), pressing space or comma to put in a comma, RETURN to enter the line. The program will not let you press any other keys, banning the bane of all mass typists, the clear screen key. You can edit the line if you press the back space key, but that's it!

You can quit any time just by hitting BREAK and saving the whole program, reRUNning it when you load it up again.

## TFSVLD

The cryptic name of the program above stand for "Tiny Font SaVe & Load". A few issues back I provided a font editor that let you edit the characters of the Atari internal character set, making your alphabet greek, russian, a series of spaceships, or whatever. The program was rather powerful, but because it had to fit in less than ten lines the ability to load and save the fonts was left out.

Well, the following lines of code added to TinyFont will add the appropriate commands to load and save your masterpiece fonts to disk. Pressing the control plus a letter of the alphabet will save the font under that letter (actually, TINYFONT.NOX, where the last character, the X, is the letter you type in). This lets you save up to 26 fonts on a disk. To re-load your font, just press the same letter, but without the control key. It's a somewhat crude human interface, but it adds very few lines to the program (only four) and it maintains the integrity of the original program, both good practices to follow when expanding a program.

So here is both the original TINYFONT and its expansion, TFSVLD!

## BARRIERS

```
10 CLOSE #6:OPEN #6,12,0,"S":POKE 752,
1:POKE 710,2:FOR Y=1 TO 22:POSITION 1,
Y:? CHR$(160):POSITION 38,23-Y
20 ? CHR$(160):NEXT Y:FOR X=1 TO 37:P
OSITION 38-X,1:? CHR$(160):POSITION X
,22:? CHR$(160):NEXT X:FOR Y=3 TO 20
30 POSITION INT(33*RND(0)+4),Y:? CHR$(
96):NEXT Y:X=2:Y=X:DX=1:DY=0:C=0:U=0:F
OR A=1 TO 256 STEP 0:LOCATE X,Y,Z
40 POSITION X,Y:? CHR$(20):IF PEEK(764
)<255 THEN POKE 764,255:IF Z=32 THEN
Z=6:U=U+1:POSITION 1,23:? "Used:";U;
50 IF Z=6 THEN A=DX:DX=-DY:DY=-A
60 IF Z=160 THEN DX=-DX:DY=-DY
70 IF Z=96 THEN C=C+1:POSITION 10,23:?
"Caught:";C;" ";Z=32
80 POSITION X,Y:? CHR$(Z):X=X+DX:Y=Y+
DY:IF C<18 THEN NEXT A
90 POSITION 21,23:? "Score:";DIM NS(3
):NS=STR$(U/C):? NS;:FOR A=1 TO 2 STEP
0:NEXT A
```

## DATAENTR

```
0 GRAPHICS 0:? "Starting line:";INPUT
B:? "Increment by:";INPUT I:? "Last
line number:";INPUT E
1 OPEN #1,4,0,"K":FOR L=B TO E STEP I:
GRAPHICS 0:POKE 842,12:? :? :? :? :?
? L;" DATA ";
2 POKE 702,64:POKE 694,0:GET #1,A:IF (
A)>48 AND A<=57) OR (A)>65 AND A<=70)
THEN ? CHR$(A);
3 IF A=32 OR A=44 THEN ? " ";
4 IF A=126 THEN ? CHR$(126);
5 IF A=155 THEN ? :? :? "POKE 842,12:N
EXT L":POSITION 2,0:POKE 842,13:STOP
6 GOTO 2
```

## TINYFONT

```
10 GRAPHICS 0:POKE 752,1:? "Setup...":
DIM AS(2048):Z=INT(ADR(AS)/1024)*1024:
Z=Z+1024*(Z<ADR(AS)):FOR A=0 TO 1023
20 POKE Z+A,PEEK(A+256*PEEK(756)):NEXT
A:POKE 756,Z/256:POKE 82,13:? CHR$(12
5);" TINYFONT":? " ";
30 ? :? :? "<Arrows>Choose":? " <+-->
Moves":? " <SPACE>Marks":POSITION 15,
17:? "Edit - "':POKE 82,2
40 S=PEEK(88)+256*PEEK(89):FOR B=0 TO
3:FOR A=0 TO 31:POKE S+764+40*A+B,3.
+A:NEXT A:NEXT B:OPEN #1,4,0,"K"
50 X=1:Y=1:POKE S+703,C:FOR B=1 TO 256
:D=S+255+40*Y:X=E-PEEK(D):POKE D,E+128
:GET #1,B:POKE D,E
60 IF B<32 AND B>27 THEN C=C-(B-30)+(B
-31)-32*(B-28)+32*(B-29):C=C+128*(C<0
)-128*(C>128):GOSUB 90:GOTO 50
70 IF B=32 THEN POKE Z+C*8+Y-1,PEEK(Z+
C*8+Y-1)+((2*(8-X))*(E=0))-((2*(8-X))*
(E<0)):POKE D,3*(E=0):NEXT B
80 X=X-(B=43)+(B=42):Y=Y-(B=45)+(B=61)
:X=X-8*(X=9)+8*(X=0):Y=Y-8*(Y=9)+8*(Y=
0):NEXT B
90 FOR B=0 TO 7:POSITION 16,B+7:A=PEEK
(Z+8*C+B):D=127:FOR E=1 TO 8:? CHR$(32
+3*(A>D)):A=A-(D+1)*(A>D)
100 D=INT(D/2):NEXT E:NEXT B:RETURN
```

## TFSVLD

```
5 DIM FNS(15):FNS="D1:TINYFONT.NO#"
35 POSITION 9,6:? "<A-Z>/<A-Z>Load/S
ave"
73 IF B<27 AND B>0 THEN FNS(15)=CHR$(B
+64):OPEN #2,8,0,FNS:FOR A=0 TO 1023:P
UT #2,PEEK(Z+A):NEXT A:CLOSE #2
77 IF B>64 AND B<91 THEN FNS(15)=CHR$(
B):OPEN #2,4,0,FNS:FOR A=0 TO 1023:GET#2
,B:POKE Z+A,B:N.A:CLOSE#2:GOSUB90
```





# Computerdom plugging in to tongue-in-cheek church

By Kathleen Salamon

SPECIAL TO THE EXAMINER

SANTA CRUZ — To hear Jeffrey Armstrong tell it, he was innocently working late one night at his Macintosh computer when a bolt of lightning struck the satellite dish on the roof.

"I was rendered unconscious," Armstrong recalled. "When I awoke, the 'Keyboard Prayer' was on the computer screen naming me 'St. Silicon' with the instruction that I should preach the silicon dispensation unto the carbon-based entities."

This unlikely story (but what religion doesn't ask a lot of its believ-

ers?) is the foundation of C.H.I.P., the Church of Heuristic Information Processing — the world's first user-friendly religion.

Based in Santa Cruz, C.H.I.P. combines the zaniness of the coastal resort with the "high-tech" seriousness of the Silicon Valley.

The 40-year-old Armstrong, St. Silicon, takes on the role of "quantiff" for the church. Despite a flashing tie clip and a computer chip stuck to his forehead, St. Silicon's overall conservative appearance makes him look like the Silicon Valley version of Elmer Gantry.

One minute with St. Silicon is enough to cure anyone of terminal

— See SAINT, B-6



Chip Scheuer

JEFF ARMSTRONG  
'I was a humble wordsman'

## SAINT

— From B-1

boredom.

But not, alas, from bad puns. Word play is the basis for St. Silicon's "high-tech" humor.

There is an affiliated university called BYTE U., as well as a high school called our Lady of Perpetual Upgrades. Members of the church are called DOSciples (for disk operating system), and they attend services in a place called Winchester Cathedral. One of the most ardent of C.H.I.P. followers is RamDOS, who said: "Beep here now."

Armstrong is an unlikely candidate for his role as St. Silicon and C.H.I.P.'s "Moussiah." He had no knowledge of computers before moving to Santa Cruz nine years ago. His education centered on psychology, creative writing and history.

But after working as an international sales manager for Apple Computer, Armstrong found a niche.

"I was a humble wordsman," St. Silicon said. "In fact, my first computer came with a loser's manual. After years of austerity and penance, I finally got a Macintosh — the MacRighteous shall inherit the earth."

Armstrong no longer works for Apple. Ever since the lightning

struck the satellite dish, the transformed St. Silicon has been spreading the word about the new religion. The efforts have paid off. Literally.

"Previous religions had their prophets," he said, "but we have our profits. Other churches are nonprofit. This church is definitely for-profit."

Armstrong brings in an undisclosed income from the sale of church memberships and St. Silicon paraphernalia. Also, for a fee, he gives sermons to computer companies and trade representatives. His specialty is the Sermon on the Monitor.

But the big bonanza, Armstrong hopes, will be the upcoming publication of the religion's holy book, the Binary Bible. For mass market, the book will be called, "The Hacker's Guide to the Data Distressed."

"The Binary Bible offers console for the data weary and the computer distressed," Armstrong said. "I translated it from the Old Geek into the King Job's Perversion — both the Beta and Blue Testaments."

The Binary Bible talks about G.O.D. — the Giver of Data — who has the ability to "save" data.

The book details some of the sacraments, including circuitcison, which is the cutting away of unnecessary thoughts, and the act of making confusion instead of confession. Among the titles in the religion's hymnal is Hymn No. 11011010, "Amazing Space."

But the key to the religion's philosophy is heurism — a process by which one uses rules of thumb to find solutions or answers. It is a flexible and variable way of thinking instead of a rigid one.

"Science and traditional religions consist of algorithms — that is, rigid rules," Armstrong said. "They say 'here are all the rules to follow.' But the problem is that people follow the rules blindly without using their intelligence."

That's how religion, which is supposed to lead to human happiness, instead leads to wars, inquisitions, violence, strife and dogmatism, Armstrong said. Likewise, technology, which is supposed to enhance mankind's well-being, instead leads to the manufacture of instruments that could destroy humanity.

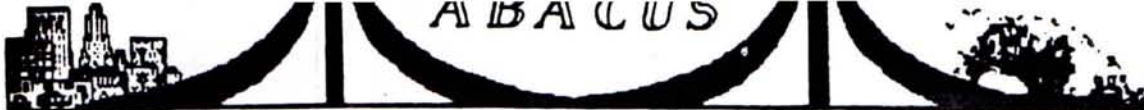
In St. Silicon's view, technology and religion can be mixed in an intelligently and beneficially. "I would like to see expressed in the world around me the proper balance between love and logic," he said.

Sound almost plausible?

He warded off this momentary seriousness by noting that the perfect balance of all things is a state of "Nerdvana."

"In my world of utmost Nerdvana, I would just like to see everyone happy," he said. "We make the world overly serious — we forget how to have fun. Therefore, this is a FUNdamentalist church."





## SUPERWIZZBANG PLUS

by  
Mark Butler



This is the saga of the new version of SuperWizzbang Plus. Sit back and see if any of this sounds familiar.

John has been eagerly awaiting version 2 of SuperWizzbang Plus ever since he saw the large 2 page ads in all the magazines. Version 2 could do everything he could do now and included over 712 new features. It was a total package with a better spreadsheet, database, word processor, calendar, notepad, desktop publisher, phone dialer, etc. than ever before.

A few weeks after the ads ran he got a letter from the company telling him that there was a special offer for owners of version 1. He could upgrade to version 2 for a measly \$199. He mailed off a check and his old disk that same day. He never bothered to make a backup disk until his new version arrived, the ad said that they were already shipping advance copies to old customers.

After waiting 3-1/2 months John got his new disks. By now he was frantic, having been without for all this time. He tore open the package, read the quick install card which just said "Boot the installation disk" and did so.

Absolutely nothing happened. John decided to try the 298 page installation manual. It said that version 2 has been re-designed to take advantage of color monitors. Checking further he discovered that version 1 did not care what monitor you had but version 2 required a color monitor. John decided that he needed a color monitor anyway so he went out and purchased one.

Back at his 520ST, John booted the installation disk and watched the glorious color intro start up. He tells it he wants to install the software on his hard disk, and begins the disk swapping procedure. Why can't I use my second drive he wonders.

After 39 disk swaps, it informs him that it is ready to install his printer driver. It displays a list of 137 printers and tells him to select his. That's strange, thinks John: Version 1 supported my old Slowpoke-100 printer but I don't see it on the list. Checking the manual again he cannot find anything to help, but it does say to display the READ.ME file for the latest update information.

Re-booting, John finds the READ.ME file on disk 18. It tells him that "Certain printers that were available in previous releases are no longer supported. If your printer is unlisted, select one that is similar or use the GENERIC printer. Be warned that the GENERIC printer driver does not support 93% of available printer options."

Starting up the install procedure again, John is dismayed to see a "INSTALL FAILURE" error and then the system hang with 7 bombs. Back at the manual he finally spots a small sentence that tells him the installation procedure assumes that there is no old version on his disk. Re-booting and checking his hard disk, John deletes the partially installed SuperWizzbang Plus, and started it up again.

This time everything goes fine, John selects the Slowpoke-200 which he is sure must be compatible with his Slowpoke-100. After inserting disk 18 John sees the enlightening message "DISK FULL" and 13 bombs. Re-booting John discovers that although he had plenty of room on his hard disk before now he has only 6 bytes free. The manual informs him that although version 1 fit on a 360k disk, version 2 requires 2.5 megabytes of his hard disk. "Well it needed some cleaning up anyway" John thought as he removed some old NEO pictures. He also remembered to delete the partially installed folder before re-starting the install procedure.

This time the install finishes without a hitch. Excited now John clicks open the SUPWIZZ2 folder and activates SUPWIZZ2.PRG. Suddenly a dialog box comes up informing him that the system cannot read drive A. John is dumbfounded. Back to the manual: John discovers that although version 1 was not copy protected, version 2 has so many new features that it is copy protected. He must now insert the key disk in drive A whenever he wants to use SuperWizzbang Plus. Inserting the disk, John activates SUPWIZZ2.PRG, watches in amazement as his drive A light comes on and horrible snarking sounds issue forth. Finally the drive light goes out and he looks back at the screen. "NOT ENOUGH MEMORY" and 12 bombs greet him.

"Huh?", the old version ran ok on his 520ST. The manual clearly stated on page 85 that version 2 required 1 megabyte. "Well I always wanted 1 meg anyway" John thought. He took his 520ST to his friendly local user group and had it upgraded to 1 meg.

Back at the keyboard, John boots with increasing excitement. Although the install has been a bit rocky (and more expensive than he originally thought) he is sure that it will all go smoothly now. He starts it up, the drives whir and the screen display 14 bombs. After paging through the install manual he comes upon a Xeroxed addendum tucked in the back. It informs him that SuperWizzbang Plus version 2 will not allow any desktop accessories. "AHA" thinks John, since version 2 will do everything my 5 desktop accessories do anyway I don't need them. He removes the 5 .ACC files from his hard disk and re-boots.



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Enthusiasts, Van Nuys, Calif.

## A COMPUTER BENCHMARK by Ray Maynard

In a rare burst of enthusiasm, I recently took it upon myself to compare the execution speeds of the several programming languages I have available to me on my Atari 800. The results may be enlightening to anyone trying to decide on a programming language. I used the "Prime Number Sieve" benchmark printed in the January 1983 issue of BYTE magazine. The program finds the first 1899 prime numbers, i.e., numbers that have no factors other than itself and 1. This program has been run on almost every computer made and seems to have become a "classic" benchmark program.

The program as published in BYTE uses an array of 8191 numbers. Since each element of a numeric array in Atari BASIC and all compatible BASICS (except Microsoft) take 6 bytes per element, the array alone requires over 49K bytes! And that's without the program! Since the only values stored into the array are 1 and 0, I decided I could do the same thing using a character string DIMensioned 8191 and storing the characters "1" or "0" into it. Since each character in a string takes only takes one byte, that saved almost 41K bytes, allowing the program to fit into my Atari. I used two methods of storing and retrieving values to/from the string: substring substitution and PEEKing/POKEing directly into the string. An example of substring substitution is:

```
100 DIM ARRAY$(8191)
110 ARRAY$(100,100)="1"
120 ARRAY$(101,101)="0"
```

while an example of the PEEK/POKE technique is:

```
100 DIM ARRAY$(8191)
110 LOCARRAY=ADDR(ARRAY$)
120 POKE LOCARRAY+99,ASC("1")
130 POKE LOCARRAY+109,ASC("0")
```

I have included the timing results from a few other computers to indicate how the Atari matches up. I ran the timings of ACTION!, C65, Atari BASIC cartridge, and BASIC XL; all the other times shown are from magazine articles. The execution times shown are in seconds for 10 iterations of the main loop of the program. You will notice that executing with the screen display disabled increases the speed. This is because the CPU has to spend significant time keeping the screen updated, even when the display isn't being changed.

Computer and Language	Execution Time
Crav-1	0.110
Control Data CYBER 760, FORTRAN	0.723
VAX-11/780, UC Berkeley C compiler	1.42
Z-80 C compiler	14.0
Atari, ACTION! compiler,	

screen disabled	15.1
Atari, ACTION! compiler,	
screen enabled	21.9
IBM PC, C compiler	22
IBM PC, FORTH	70
Atari, BASIC XL, "fast" mode,	
PEEK/POKE method, screen disabled	101.0
Atari, BASIC XL, "normal" mode,	
PEEK/POKE method, screen disabled	135.7
Atari, BASIC XL, "fast" mode,	
PEEK/POKE method, screen enabled	148.6
Apple II, Apple Pascal	160
Apple II, FORTH	190
Atari, BASIC XL, "normal" mode,	
PEEK/POKE method, screen enabled	196.5
TRS-80 Mod II, UCSD Pascal	274
Atari, OSS C65 C compiler	285.7
Atari, BASIC XL "fast" mode,	
substring method, screen disabled	1261
TRS-80 Mod II, BASIC	1430
Atari, BASIC XL "normal" mode,	
substring method, screen disabled	1583
Atari, BASIC XL "fast" mode,	
substring method, screen enabled	1847
Apple II, Integer BASIC	1850
IBM PC, BASIC (integer)	1950
Atari, BASIC XL "normal" mode,	
substring method, screen enabled	2299
Atari, Atari 8K BASIC cartridge,	
POKE/PEEK method, screen disabled	2377
IBM PC, BASICA (floating point)	2400
Atari, Atari 8K BASIC cartridge,	
substring method, screen disabled	2416
Apple II, Applesoft Basic	2806
TRS-80 Mod III, BASIC	2880
Atari, Atari 8K BASIC cartridge,	
POKE/PEEK method, screen enabled	3492
Atari, Atari 8K BASIC cartridge,	
substring method, screen enabled	3543
TI 99/4A, TI-BASIC	3960

If the newsletter editor has room to print them, I have submitted listings of some of the programs that I ran so that you can compare the coding techniques used in the various languages. In the BASIC programs, a loop is used to set all elements of the array to "true" or 1. It would have been much faster to use the code sequence  
 FLAGS\$="1";FLAGS\$(8191)="1";FLAGS\$(2)=FLAGS\$  
 but I didn't in order stay as close as possible to the original program as presented in BYTE.

I had lots of fun (and frustration) running these benchmarks. I hope the results are of interest to you.





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Sterling, Virginia.

## ATARI BOOKSHELF

### ST PROGRAMMING BOOKS

Review by Pamela Rice Hahn

I do not consider myself a programmer. I am a dabbler. And, I'm very curious. I want to know how and why things work. Not mechanically. In my opinion, that's for the techies. I enjoy examining a program's (programmer's) logic. To a certain extent the code reflects the programmer's personality. (There are easier ways to study human nature, I know; but, I'm eccentric by choice. At least in this instance.)

So, rather than considering myself a full-fledged programmer, let's just say I'm a modifier. Trial-and-error and assistance from my ever-present reference library help make these modifications possible. This month we'll take a look at two such "reference library" books.

**COMPUTE! ST Programmer's Guide.** This book is an amplification of the documentation that comes with the ST. As such, it covers a broad area: ST BASIC, Logo, GEM/complete with C program examples, and TOS. Unlike the **COMPUTE!** book reviewed in the May '87 issue of *CN*, at publication this book contained all original material.

The first three chapters are devoted to learning to program in ST BASIC. "An Introduction to ST BASIC" is just that — a concise 15-page overview of the language. In this case, however, don't let the number of pages fool you. **COMPUTE!**'s editors pack a lot of information in these pages. Not only is it easy to comprehend, but this intro is so much simpler than wading through Atari's muddled ST BASIC manual. These few pages provide enough information to allow the novice to either begin **LOADING** in PD examples (from the *CN* library, of course) or to start writing his own simple BASIC programs. Chapter 2, "BASIC Keywords", contains explanations of the (alphabetically-listed) keywords used in ST BASIC. Examples are given showing mandatory parameters and syntax. Chapter 3, "Writing Your Own Programs", walks the user through typing in the variety of programs given in the book, gives the novice the instructions necessary to **SAVE** then **RUN** those programs, and then explains how the program(s) work.

The next three chapters cover Logo: "Logo Programming Concepts", "Logo Primitives", and "Creating Your Own Procedures".

Chapter 7, "Introduction to GEM and TOS", is an introduction to the routines that make possible the ST point 'n' click ease-of-use that most of us already take for granted.

Chapter 8, "Writing a GEM Application", explains the steps necessary to make a window, adding a desk menu, and creating a desk accessory shell. Because parts of GEM are written in C, examples are given in that language. C also provides a compromise between the ease of understanding afforded by BASIC and the speed possible using machine language. While this chapter does explain the steps used in these examples, some knowledge of C is assumed.

The "Appendices" comprise the next 61 pages. Appendix A displays the ASCII codes and their equivalents. Appendix B is an explanation and listing of BASIC Error Messages and Appendix C explains Logo Error Messages. Appendix D provides a sampling of software and hardware manufacturers supporting the ST. Appendix E explains and lists selected GEM VDI opcodes.

Finally, this book has one of the best detailed indexes I've seen. Instead of just containing a few random selected keywords and then generating the multitude of numbers that refer to each and every time that word is even briefly referred to, this index (so far) seems to be complete. For example, check out 'variables' and you'll find "variables, BASIC 7-10" as well as "variables, Logo 135-136."

The only complaint I have regarding a possible source of confusion is that on pages 3 and 104 the book assumes TOS is still RAM-based; however, by page 245 the book recognizes that TOS can be either/or.

As a final added bonus, this book is spiral bound. **COMPUTE!** BOOKS has managed to impress me again.

[**COMPUTE! ST Programmer's Guide**, **COMPUTE! BOOKS**, P.O. Box 5406, Greensboro, NC 27403. 119/275-9809 ISBN/0-87455-023-8, \$16.95. 356 pages.]

**ATARI ST Programmer's Guide.** The first 153 pages of this book duplicate the 153 pages of text in the **ATARI ST User's Handbook** by the same author and reviewed last month. The substance in this book is on the remaining pages. The last chapter, Chapter 10, "ST BASIC Reference Guide", is an alphabetized listing of the keywords and their commands, operations, and functions. Definitions and examples, syntax, and (mini) program samples are given.

The four previous chapters — "Introduction to ST BASIC", "BASIC Programming Concepts", "File Handling", and "BASIC Graphics" — are all well written. The author's tutorial style is not only easy to understand, but the examples given are usually also accompanied by illustrations of example screens. This approach, used often in **ABACUS** books as well, not only facilitates understanding of the subject(s) being presented but also means the reader doesn't necessarily have to read this manual while seated in front of a computer to reach that level of understanding. Since I never go anywhere without taking along something to read (unless it's a quick trip to the front porch to retrieve the morning paper), I really appreciate this feature.

It's too bad, considering the quality of the material in chapter 6-9, that I really can't recommend this book. If Weber Systems had omitted the first 153 pages and published the last half of this book under its present title at \$9.95, I'd endorse this book and call it a bargain. Since they didn't, it's my opinion you can find better ways to spend your \$17.95.

[**ATARI ST Programmer's Guide**, by Gilbert Held, Weber Systems, Inc., 8437 Mayfield Road, Chesterland, OH 44026 216/729-2858. ISBN/0-938862-79-0, \$17.95, 351 pages, Index.]

### ELECTRONIC COMPUTER PROJECTS

Review by Carl C. Hahn

Some new houses are controlled by a computer. A group of engineering students build a robot. Have you wanted to try something like that, but were in awe of electronics? Then I have news for you....

This new book from **COMPUTE!** won't tell you how to control your house, or build a robot, but it will give you a chance to see your computer in a new way. If you have an Atari 400/800/XL/XE, you should find something of interest. The book contains enough information to give an amateur the confidence to try something that sounds difficult, providing some good information about your computer as well.

The Preface tells you what tools you'll need to get started. The list isn't long and your supplies won't cost much. You probably even already have some of the items. It also explains how to solder so you get a good connection, but most of the projects don't require a lot of soldering.

There are 182 pages including a good Index. The book is even wire-bound so it will lay flat while you work. There are a lot of illustrations and diagrams. The reading is easy to understand, and tells you just what you need to know.

Once you add a component to your computer, you need a program (application) to make it work.

DOS is a good example of an application. Without DOS your disk drive is just an expensive paper-weight. This book includes the application that you type in for each of the projects. **COMPUTE!** also knows people have trouble typing programs from a listing, so they have included a program called "Proofreader" to check your program typing. When you type "Proofreader" the first time be sure you **SAVE** it!! If you **RUN** it, it merrily installs a machine language routine and vanishes.

Each project is provided with a list of parts (complete with the appropriate Radio Shack part number) you will need. This way, not only do you know you have the right parts and can pick them up in one trip to the store, you can also check the catalog in advance so you know how much money you'll need to take with you.

Although it starts with a brief explanation about how your computer works (bits, and bytes, and switches), by page 9 you are ready to start your first project: a simple Logic Probe. While you follow the instructions, you learn about resistors. Then you build a connector for your joystick port, type in an 11-line program, and use the logic probe to check which pins have current. Since you are working with current from the computer, there is no danger of electrical shock.

The second project is making a simple joystick in a plastic box (Radio Shack), with five switches for up, down, right, left, and fire. This one requires more soldering, but gives you a lot of experience. You can also build a gravity joystick with mercury switches, if you want. Next you make some paddle controllers, and test them on your computer.

Each of the projects and subsequent applications get more and more complex, but each builds confidence. You also get experience in using a solderless breadboard for your circuits. You can begin wire wrapping the connections, which makes it possible to take your projects apart and reuse the breadboard.

Since we are only up to page 45, I'll fast forward through some of the next projects. There's an Analog Light Sensor using a photocell, and a Light Pen using a phototransistor and a NAND gate IC.

How about making a Variable Digital Light Sensor (to tell when someone opens the refrigerator door), or a Digital Light Beam Timer (to time slot cars as they circle the track)?

You learn how your computer can send signal to the outside while you build an Electronic Switch. Using the information from the joystick,





The 8-bit Atari makes an excellent dedicated computer. I saw something like what is described below at the British Columbia Pavillion at last years's World's Fair. -Charles Cherry

## INDUSTRIAL ATARI

Lee S. Brilliant, MD LA-ACE

In this often Ho-Hum world of computers where MS-DOS is the only language spoken and where excitement is defined as a new clock speed or a box that has a slightly different shade of beige, occasionally something happens to reaffirm my faith in the diversity of man. Such an event took place the first weekend in April. It was a beautiful spring day as I drove up to the front doors of the Hotel Intercontinental in San Diego. I was there to learn something new and exciting in the field of Obstetrics and as I entered the lobby, the doorman's white-gloved hand opened 3/4 inch thick solid glass doors. This beautiful new hotel is located on the bay in San Diego; the basic room rate starts at \$130 a night! There, clearly visible from across the lobby was a 25 inch color monitor displaying the entire day's conference schedule in a beautifully scrolling text display. I was struck instantly by it. It was pale blue on dark blue, 20 columns by 12 rows in easily readable blocky letters 6 by 6 pixels in an 8 by 8 matrix. And the character set looked amazingly familiar! Could it be? Naw, not at a place as obviously sumptuous as this one!

Through the concierge I contacted the director of conference services to inquire about their system. She graciously showed me the control center from which 8 displays were run. The one in the main lobby scrolls vertically and shows the whole day's meeting schedule while outside of each conference room is a built-in monitor displaying only the activity in that room. The main control is your standard off the shelf low end generic IBM which connects to a fascinating large blue box: obviously custom hardware. I didn't have the nerve to ask her to pull the cover off and so I left, disappointed that it wasn't an 800 sitting there running the show. Later that day I passed by the same desk and noted the cabinet was unlocked and that no one was around. The temptation was too great so I opened the cabinet to gaze at that blue mystery. Aha, divine inspiration: there were no screws holding the cover in place! I held my breath, looked around again, and pulled the cover off. Lo! Inside was a nice neat stack of 8 circuit boards that were hauntingly familiar, there were the guts of 8 600XLs lock, stock and without keyboards or cases. I quickly put everything back together and then nonchalantly wandered off, deeply satisfied.

Later I found out who manufactured this system and contacted the creator Michael F. Young from Young Design in Tysons Corner, Virginia and he told me a little about his system. It is a 128 channel data interface and multiplexer which he built. It can connect up to 128 ATARI computers to the serial output of an IBM and feeds data bytes to the XLs via their joystick ports. Video outputs are then routed to the hotel's displays. Custom software is installed in the XL's by replacing their BASIC ROMs with 2764 EPROMs and modifying the circuit boards slightly. When the operating system goes to initialize BASIC, it starts the custom software instead.

So far Young Design's system (which was sold and marketed through TEC Communications to Hotel Intercontinental) is a one-of-a-kind, although Mr. Young would hope to sell more. When I asked him how it was that he used ATARI computers, his answer was "because of its graphics capability and low cost." The system is capable of much more than I saw but the conservative hotel did not want four color screens. Mr. Young's first use of ATARI was a system for video paging at conventions using a single ATARI to run several monitors on the convention floor. He used a keyboard, connected via a UHF link, to allow message to be changed from anywhere on the convention floor. "The system worked well but there was not much market for it." Hotel officials saw the set-up thus leading to the development of the system I saw.

Adventist Hospital in Glendale uses an 800 with a similar scrolling display to replace the typical bulletin board in alerting physicians to hospital activities. The humble ATARI is more than just a game machine, it is an industrial workhorse, the rest of the world just doesn't know that. As Mr. Young said during his interview "Don't tell them they were Atari computers, please I hope you didn't tell them!" I did. The real question, though, is why I spend my time investigating such seemingly unimportant matters? Well beside my obvious interest in Atari computers, it rained two of my three days in San Diego! What else could I do?

digital light sensor, and electronic switch projects, you can even build a Burglar Alarm.

You learn about Digital Logic and how to make a Better Logic Probe. There's a chapter that shows how you can build on the earlier projects, with diagrams and pictures.

The last chapter is about Robotics. It does show how you can control one motor (such as raising and lowering an arm) with a computer program.

This would be a good book for a Father-Son team. Most of the projects can be completed in a couple of nights, including typing in the programs.

[ELECTRONIC COMPUTER PROJECTS for Commodore and Atari Personal Computers, by Soori Sivakumaran, COMPUITE! BOOKS, P.O. Box 5038, F.D.R. Station, New York, NY 10150, ISBN/0-87455-052-1, \$9.95.]





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San Leandro, Calif.

*Heck of a deal!*

## Checking out the SX212

By Bob Woolley SLCC

For those of you with no modem, or a SIO connect 8-bit modem, or a 300 baud modem (leave anybody out?), Atari has got a great new product for you - the SX212 1200 baud modem. It has a standard RS-232 interface for those users with an 850, or an ST, or a P:R Connection and an SIO connector for those 8-biters who lack an RS-232 box. It is Hayes compatible and even has a nice row of LEDs across the front of the unit to keep you informed of its status (High Speed, Auto Answer, Carrier Detect, Off Hook, Receive Data, Send Data, Terminal Ready, and Modem Ready). The best thing about this guy is that it only costs \$99.95 - List Price. A product of increasing integration, it is another level up on the path to single chip, 1200 baud, modems - much like the 300 baud XM301 that preceded it.

I can remember my first RS-232 modem. It was also Hayes compatible, which seems to mean that it has to have 6 million switches set before your computer will talk to it. Not the SX212. Absolutely nothing to set on this guy. Move it from your 8-bit to your 16-bit system .... works just fine with no switch juggling. Aren't any to mess with, anyway. My X-Ray Vision tells me that there are jumpers inside, but it isn't something the average guy is going to fool with. I tried the 212 on my ST with FLASH. Although I am not any kind of TP expert, the modem worked just fine. It seemed to be perfectly happy with XModem downloads and such. Even the operator trying to interrupt my call didn't bring down the modem. Lots of garbage, but carrier stayed up. This is exactly what the computer industry needs - an affordable product that you just pull from the box and run!

When it came to my 8-bit system, I hit a little snag. Since the modem would connect to the SIO port, it has to either emulate an 850 and the Hayes modem, or not emulate the 850 and not work on my 8-bit. Guess which one I got?? Works just fine on the P:R Connection as a Hayes (knew that since it worked on the ST). Didn't work at all as an 850. I tried a Status command to every address on the SIO buss and got no response from the SX. One thing for sure, no matter how it works, the modem requires a handler. Some devices load their own handler and some programs replace them with the handler that the program wants. So, without a handler, I had no chance to make the thing work. If the device didn't even talk to the CPU on the SIO buss, how could the handler talk to the modem?

The XM301 modem came with an excellent communications program and plenty of documentation on disk to fully describe the handler necessary for that device. I quickly learned that an SIO cable (which is not included in the box - for obvious reasons. You can't use the SIO feature without the handler) and a version of EXPRESS will become available from Atari at some future date. I should hope so. Not requiring a P:R Connection or an 850 can save an 8-bit user as much as the cost of the modem itself. This is one of the greatest assets of this device, the ability to run without additional interfaces. Needless to say, this was most discouraging. Maybe a little hacking could help?

There was (is?) a company called Advanced Interface Devices that made a simple RS-232 adapter for the Atari SIO buss. Since the SIO is already a serial buss that can be programmed to operate in almost any mode, they thought they could just write a handler and wire up a cable that would suffice for RS-232 operation. They produced the R-Verter and managed to do

exactly what I described - run the SIO as an RS-232 serial interface. With this in mind, and a little more X-Ray Vision, it appeared that Atari was using the same method on the SX212. There is a two chip modem set, a couple of RS-232 receiver/driver chips, an audio amp, an LS logic chip, and some sort of clock generator inside this modem. It would be very unusual for a modem chip set to be able to talk to an Atari SIO buss directly (the XM301 uses a microprocessor to operate as a modem and to talk to the buss). So, I had to conclude that Atari used the R-Verter approach. Close inspection of the SIO pins indicate that the -Command line (pin 7) is not even connected in the SX212. No way to do SIO without that pin. No SIO means an RS-232 emulator. The only one that I am aware of is the AID R-Verter.

So, I logged on to CompuServe and looked for an R-Verter handler in DL2. Luckily, I found exactly what I needed in a file called RVHAND.XMO. It is an R-Verter handler that has been re-compiled for use with HOMETERM. Following the RVHAND.DOC file, I created a copy of HOMETERM that would run on the R-Verter. Booted up on my SX212 and got the 850 status screen. Even though the modem is directly connected, the program thinks it is talking thru an 850. All the commands that I needed worked just fine on HOMETERM - downloads, disk directories, pauses, everything!

Tom Neitzel has passed on the word that the same handler will allow the SX212 to run Amodem 7.4, a program that I am not familiar with, but is very popular. I have not tried to replace the handler in EXPRESS with the R-Verter code. I don't think that task will be as simple as re-compiling the code, since EXPRESS seems to use all available memory. None the less, those 8-bit users who own SIO connect 300 baud modems can upgrade to the SX212 and start tele-computing immediately with Amodem or HOMETERM.

One or two more comments.

The manual states that the modem cannot be used on an 800XL with a cassette recorder. The Motor line is fed into the modem and is grounded thru a 680 ohm resistor. This appears to upset the 800XL or the recorder or somebody. I don't see any significant differences between 800XL and the rest of the Atari line in respect, so expect this restriction to apply to all 8-bit models.

A suggestion is made to place the modem on top of your disk drive and the phone on top of the modem. Some telephones have magnets in them - put it someplace else if you are not sure. Some disk drives generate considerable heat, while the SX212 seems very cool. I put my modem under my drive, leaving the vents on top of the drive clear for good cooling.

The bottom line on this modem is that it is a great value for the money, performs well and can be used on either 8 or 16 bit systems with a minimum of expertise. The 8-bit software is not yet available from Atari, but even that can be fixed for the time being. No modem offers you so much for so little. Don't overlook this bargain!!







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## Yuk-Yuks

A Few Minutes with Randy Mooney  
by Frank Walters, T.A.C.O. Ball BES  
Excerpted from ZMagazine-ST

Did'ja ever notice those bulletin boards that go wee-wah.. wee-wah.. wee-wah.. when you connect? That really annoys me. I wish all modems went weeeesh like mine. Half the time they don't even connect anyway.

Did'ja ever notice those bulletin boards that don't do anything when you connect? They make you hit RETURN a bunch of times before anything happens. That's a pain in the neck. Nobody answers a telephone that way, they always say "hello?" or something like that. Why don't all bulletin boards say something like "hello" when they connect, and not make you hit a bunch of keys before they say anything? It doesn't seem polite to me.

Ya know what really bothers me? Did'ja ever see those messages that you try to read and at the end of the message there are 33 carriage returns and the whole thing scrolls off the screen before you can read it? I think there ought to be some kind of law or something that everybody who writes messages would have to read their own message and if they don't understand it then they would have to delete it.

Did'ja ever see those silly twirling cursors on some bulletin boards? Did'ja ever capture for a long time and see how much extra garbage goes into the buffer just from those silly cursors? Even worse, did'ja ever try printing them? Twirling

cursors really bug me.

Did'ja ever notice those cutesy menus that give you no idea what anything is? I mean, why can't all bulletin boards use "G" for Goodbye? I've seen Off, Quit, Land, Terminate, and even Bye. Why does every sysop complain about dropped carrier and then make it so hard to log off? There ought to be a law that certain commands are sacred and can't be touched: Download, Upload, Time, Message and Goodbye?

Did'ja ever notice those people who write long messages that are continued on the next message? Did'ja ever notice after reading all those words that you have no idea what they were talking about? I never read any messages that are continued anymore. People who write those messages don't have anything important to say, they just like to see their words on the screen or maybe just like the typing practice.

Did'ja ever download a big long file from a long-distance board and the file didn't run? I like to have my friends call the long-distance board and download the long files and then give them to me only if they work. I wish I had more friends. I wish I could be allowed to erase those bad files from the sysop's disk so other people wouldn't have the same problem.

Doesn't it bother you that some bulletin boards change the filenames so you don't recognize the download list and you download all the same files as last week but with different names? Maybe the sysop does that 'cause nobody uploads and it makes everybody think he has a lot of different files. I always wondered about that. Maybe somebody uploads them that way so the sysop will think he is getting something new and lets the caller have "blackbeard privileges" or something.

"Handles" are a pain in the neck. I never could think of a good handle and am embarrassed whenever I log-on a new bulletin board and the last question is

"What is your REAL NAME?" I never know what to say because I already used my real name. Should I make up a real name different from the one I used at the beginning? One board I logged on asked for my real name first. I thought that would be easy so when it asked for my "Handle" I just answered: NONE. It kept asking: "NONE, what is your command?" Then when I logged off, it said, "Thank you for calling, NONE." I felt real foolish. I don't like bulletin boards that make me feel foolish. I usually don't call back. I never could leave E-mail on those boards because I never could figure out who to send the mail to. Maybe I could find some people more like me by leaving E-mail for "NONE".

Did'ja ever notice that the sysops that complain the most about callers disconnecting are the ones that have boards that disconnect from YOU? I fill out a long questionnaire and when while I am trying to find out where everything is located, I see a message that says "Time expired, disconnecting" and it hangs up. Then the next time I call back I have a nasty note from the sysop that says I let my time run out. That really bugs me. I didn't set the time limit, he did. Why is he mad at me?

That's all the time I have for now. Did'ja ever notice that you never seem to have enough time for/

TIME EXPIRED, DISCONNECTING.

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ANOTHER PLEA FOR COOPERATION from Atari: This one comes from S.J. McGowan who would like to get the ROM code from the MC0805p2p in the 1020 printer. Scott would like to "fix" the code to allow the 1020 to answer on the SIO bus as P4: exclusively, thus Atarians could have their current P1: device online and the 1020 P4: device online. The 1020's current ROM answers to both P1: and P4:, thus causing an error when there is another printer (P1:) online. "P.S. If Atari says the code is lost, it is on hand at Motorola under file #87101 and they will release it when Atari gives permission" McGowan said. Atari's Darryl May has promised to try and find what information he can.

THE PHYSICS & ASTRONOMY DEPT. of Michigan State University is still using 8-bits in their computer labs. The Cyclotron Lab just discovered the ST, and are using several to replace Techtronics Terminals. They are saving big bucks and getting a local CPU too. FERMILAB, the country's largest particle accelerator, is also buying ST's now that the MSU folks have taken the ST's with them on their many trips to FermiLab. Thanks to John Nagy for that information.



Programs Cash In on Fitness

# InfoWorld

The Newsweekly for Microcomputer Users

February 27, 1984

Volume 6, Issue 9

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## IS ATARI GOING DOWN THE TUBES?

During 1983, Atari suffered astounding losses and bruising company politics. Can a new chairman — James Morgan (right) — and a new president — John Farrand (above) — recapture the magic of former times? How much of a pounding can one company take?



FM MAYRA  
CAG9112ZNNNNW 34165  
EC 00415  
103 MENDOSA AVE  
SAN FRANCISCO CA 94116



EPSON UPGRADE TO ACT LIKE IBM PC, MAC

# InfoWorld

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## TRAMIEL MOVES IN: CAN HE SAVE ATARI?

SILICON VALLEY  
TOASTS NAPA VALLEY

WHY YOU SHOULD  
WATCH YOUR WORDS  
IN TELECONFERENCES

256K RAM CHIPS  
IN SHORT SUPPLY

REVIEWS:

MAIN STREET FILER

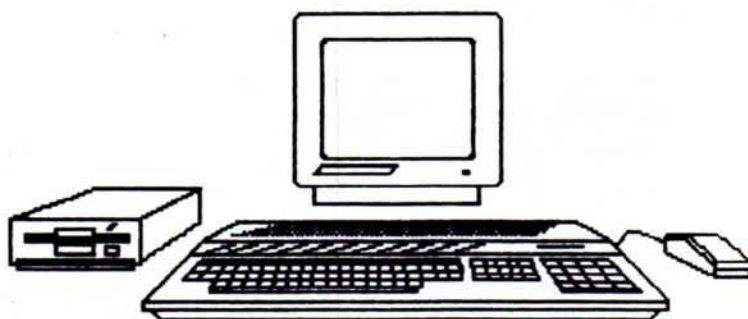
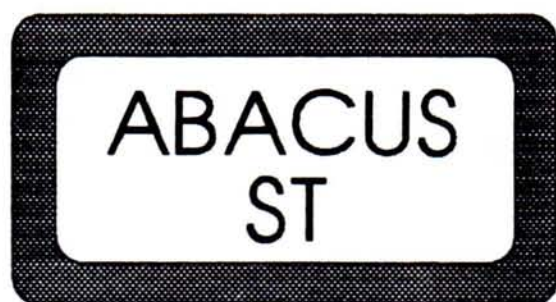
KEYTRONICS 5151  
PC KEYBOARD

PRO AID  
FOR MODEL 100



FM NOV84  
CAG9122ZNNNNW 31040  
MM 2111  
1410 21ST AVE  
SAN FRANCISCO CA 94122





## TLC'S COLUMN

by Tony Louis Cesnik

After 6 months as an ATARI ST user, I have asked myself many times, why did I buy this machine? Why not the MAC with all that software? Why not the AMIGA with multitasking, more colors and stereo sound? Why not the IIGX?

As a student in the Educational Technology department at San Francisco State, I have used all three at one time or another. The IIGX was just that: X and no power (top speed 2.5 hz.) The Mac had no color. The AMIGA looked great. It sounded great. But then, one day I began to run the thing. KICKSTART, WORKBENCH, KICKSTART, WORKBENCH. Where the heck is the operating system. CLI directory commands like the IBM. If I wanted IBM, wouldn't I buy one? Then I saw WORDPERFECT on the ATARI and the AMIGA. The AMIGA version looked like an IBM screen. All that flicker. DELUXE PAINT is undoubtedly the best paint program made. But I couldn't use it. The first time I tried DEGAS I was painting.

Six months after I bought my ATARI I began to regret it. No DELUXE PAINT equivalent. No RF modulator for the 1040 ST. No DELUXE VIDEO. Then in September, the Western Ambassador from BRODERBUND demonstrated ART DIRECTOR and FILM DIRECTOR for the ST. The features looked like DELUXE PAINT and AEGIS ANIMATOR. Except that this looks as if anyone can operate it. Now if only we can get an RF modulator for the 1040.

So, why is the ATARI a good deal? Because it works (most of the time). It's still easy to use and accessible. And most of all because we have burgers and beer on tap at our ABACUS meetings. That's why it's for the rest of us. The people who want to learn to draw and animate, and were not super talented to start with.

What will the MEGA hold for the rest of us? Either one of two things:

1. The price will stay high and ATARI will continue to be the poor stepchild to the MAC.
2. The MEGA will become the cheapest color laserwriting system available and open new doors for ST user, with enhanced animation software for the blitter chip and far more desktop publishing applications.

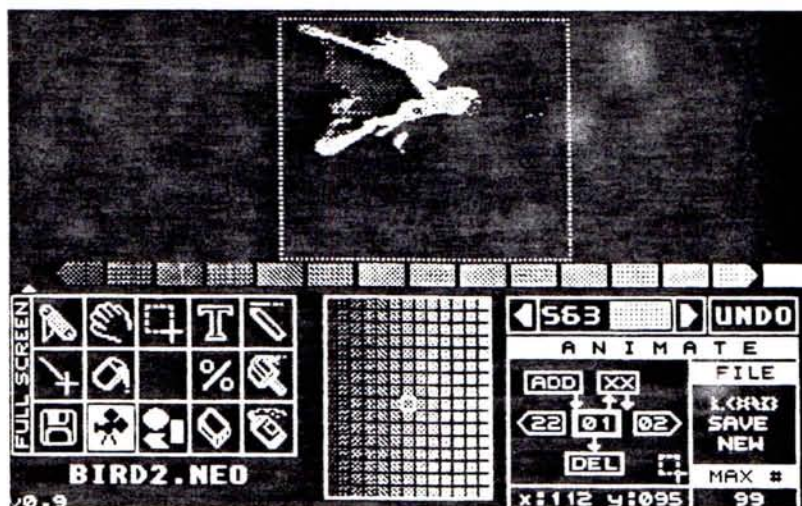
I think what will make the MEGA really valuable would be to make it more DOS compatible like the MAC. When VENTURA can read ATARI files, then we'll have come a long way. We also need a MAC WORLD-AMIGA WORLD type magazine. Are you listening JACK TRAMIEL? Most of us use the ST for applications, not programming. We need books on Desktop Publishing as more software becomes available. We need a MAGIC SAC that really does run out of the box, with many printer drivers, and runs on 128KROM Chips.

The ball is in your court ATARI. Remember the Commodore 64? Five million sold. Lower the price on the MEGA! Serious computing, ATARI, no more ANTICS please.





# NEOCHROME ANIMATION



By David Lindsley

If you have Neochrome version 0.9 or 1.0, you may be surprised to know that animation is available within the program. Not just color cycling, but actual page flipping of up to 99 pictures. I got this tidbit from the July 1987 issue of FOCUS newsletter by John Hileman.

To access animation, click on the GRABBER icon. Then go to the word "GRABBER" that appears to the right and put the point of the arrow in the top left hole of the last "R". Press the right mouse button.

Now a new icon that looks like a movie camera will appear in the left group of icons. Amazed? You ain't seen nothing yet. Go to the drawing screen and create a small object to animate. Click on the movie camera and go to your object. Click and hold the left mouse button to put a rectangle around it (allow lots of room, since this will be where you will animate).

Now move the cursor to the right box and click on ADD. Go back to the object and click and HOLD the right mouse button (Grabber will appear). Use the Grabber to move the object slightly. You can use the X and Y coordinates shown at the bottom of the animation menu to guide you if you wish. Then go back to ADD and repeat as often as you like. Each ADD will result in another animation frame.

Finally, with the right mouse button, click on one of the arrows in the right box to begin animation (just like clicking on the Neochrome ramp lines). Left

mouse button clicks will speed it up, while right clicks will slow it down. Clicking on the opposite arrow with the right mouse button will stop the animation. Be careful not to speed up the animation too fast as you will lose the arrow cursor.

You can have color cycling and animation going at the same time for a really great effect. I drew a little rocket and had streams of fire coming out the rear which I color cycled with three shades of orange. Then I moved the whole thing with the animation feature.

Clicking on the small COPY BOX icon in the lower center of the animate menu will place the current animation frame into the cut buffer.

Unfortunately, you MUST have the workscreen covering up the bottom half of your picture in order for the animation to run. There is no way to see the entire picture AND run animation at the same time. Apparently this bug is what has kept this feature "secret" and undocumented.

Notice that the animation feature allows you to save and load in completed animation sequences. The filename has an "ANI" extension instead of "NEO".

If you have the famous public domain Neochrome parrot animation that flies across the screen, guess what? You can load in that parrot and animate it in Neochrome! There are twenty separate pictures that make up the flying motion.

I was able to get the

SLIDEANI.PRГ that animates the parrot to animate a new sequence that I created, by renaming my animation to "BIRD2.ANI" and replacing the one on the disk. If you do this, don't throw away the original "BIRD2.ANI", rename it to something like "BIRD2.ANX". Obviously, this is a klutzy way of getting your animation into a slide show, and you may not want your animated pictures to fly across the screen as the parrot does. So there isn't any real good way to view your picture in a slide show program. If the guy who wrote that SLIDEANI.PRГ would make his source code available then maybe I could remove the moving sequence and give the user the option of a file selector box to start the animation sequence.

If you don't dabble very often in Neochrome, you may be interested to know of other unique features that neither DEGAS nor DEGAS elite offer.

The Jackknife icon allows you to cut around irregular shapes (rather than a whole rectangle) to copy into the cut buffer. When moving an object, you have the option of moving it BEHIND the rest of the picture rather than on top. Also unique are on-screen X-Y coordinates, color fill while in magnify mode, and automatic centering of text.

I personally feel that selecting a color from the palette is much easier than with DEGAS elite's confusing color palette. And, I like the way circles, rectangles, and lines are drawn "real-time" as opposed to the ghost outline method of DEGAS.

I admit, though, that I was rather disappointed that version 1.0 as the official "final" release is not actually finished. There is still one blank space left in the icon menu. The animation feature is of course unfinished. And when are they ever going to make the fill patterns that are already built into GEM available? Also, there are 92 kilobytes set aside as "reserved" in every Neochrome picture file. This is a lot of extra padding for SOMETHING. Lastly, the most limiting factor is that it only works in low resolution.

Maybe someday, Atari will finish Neochrome. Unfortunately, it will be long after GDOS, AMY, Blitter, etc., etc.



## What \*IS\* Atari doing, anyways?

This is the first installment of what will be a monthly column discussing past, current, and future Atari hardware, and where it fits in compared to the rest of the computer world. At times it may get a bit technical, but hang in there! Let me know if computerese sets in. I also don't have an official name for it as of yet; if you have any ideas let me know!

### Rumors for every type of Atari

For this month, the rumor mill grinds again! This month's leads are hotter than ever, and with COMDEX coming up the first week in November, we'll see confirmation of some of these rumors and wonder about the others. As these are rumors, even though they may be in Atari's labs now, they may never see the light of day! I know some things have changed already.

First off, let me say what I've heard Atari is working on. In the native Atari line, since the Mega ST is not vaporware any longer, COMDEX gives Atari the opportunity to show more prototypes that will be out sometime next year. The laser printer doesn't qualify as vaporware; it is shipping in Europe and the unit I saw had production packaging, sporting its designation on the side in traditional Atari's bright blue.

What WILL be shown at COMDEX (other than non-vaporware) is probably the Atari transputer. This device is based on an NMOS transputer chip and has provisions to add more for parallel processing. Each transputer chip should be capable of 10 MIPS (million instructions per second). All one does for more power is plug in a card which has four transputers on it (in addition to the one included in the base machine), and an instant 50 MIPS is obtained. By comparison, a Compaq 386 (16mhz version) is rated at just under 2 MIPS. Unfortunately, one can't really compare MIPS on varying machines because a RISC machine uses less instructions to get a task done, so given MIPS on a RISC machine are equivalent to more MIPS on a non-RISC machine. By the way, RISC is an acronym for Reduced Instruction Set Computer, meaning less instructions have to be passed to the processor to get a given task done. Anyhow, we won't really get a feel for the speed of the transputer until the proto types have been shown.

This computer should be available sometime during the summer of next year. Right now, it is right on schedule, and the reason for this is that Atari isn't doing its development. Development of the OS is being done by Perihelion of England, and will be called Helios. It is supposedly a blend of a UNIX style OS with a graphics interface. The hardware will sport custom graphics and sound chips (possibly the ones to be used in the NeXT computer which Rob Re mentioned last month). The graphics are reported to be capable of 1280x1024 (or thereabouts) in color. The sound may be the final incarnation of the AMY chip (however it's

spelled!).

Did I say this will be fully Mega compatible? The reason for this is that the system will require a Mega or an EST to operate, which brings us to another piece of hardware...

### Enter the EST

The EST, as I understand, was originally a new motherboard in a Mega case. Apparently this has changed, and the EST is in prototype form, in a new case. The EST is basically an ST sporting a new graphics chipset and an enhanced interface to support the new graphics modes. While the programmers were in poking around getting GEM to cooperate with the new graphics modes, they apparently added a few enhancements. Much faster I/O to both floppies and hard disks should be evident, as well as support for other media types (1.44 meg floppies, anyone?). The new graphics should be capable of 1280x1024 monochrome and 640x480 color, with four bit planes. In the spirit on IBM's new graphics adapters, the EST will possibly also support 320x200 with 256 colors.

Since the EST isn't really ready to show, I doubt it will be at COMDEX. If it's on schedule, look for it in stores during summertime of next year. (Ha!)

On the other hand, I bet Atari will show what will be the big brothers to the Atari PC: the Atari 386 machine(s). These will be MS-DOS machines running the Intel 32 bit processor. Don't hold your breath—the Atari PC hasn't even made it out the door.

### Whither, TT?

Not heard of for a while, but not abandoned, is the TT project. I haven't heard enough solid facts about this to make any assumptions, but I bet Atari is going to go with the 68030 for this one. That would put it a few years down the road.

Don't forget the ST game machine, which I hear is not dead yet. Speaking of game machines, the XE Game System is available. For \$140 (list), one gets a 65XE in a box with a detachable keyboard and pastel colored function keys! The keyboard cable could use lengthening, but at least it isn't tied down to the CPU unit. It has a real monitor port and comes with three games and a light gun. One of the games is Flight Simulator II, which comes on a 128K cartridge. The light gun will also be sold separately. An SIO port accepts disk drives. I've been told that it is easily upgradeable like the 65XE. I'll comment more when I get more time on one.

Enough ranting and raving for this month: we'll pick it up next month with reports of what actually happened at COMDEX, more rumors, and whatever crosses my path.

Please keep in mind that rumors presented in this column are based both on what information is available and speculation on my part. And Atari could always change their direction...

-Dean Brunette





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Sterling, Virginia.

## MS-DOS ON THE ST: PART I

Cultural Shock for GEM Fans

By William Price

For those who have never used CP/M or MS DOS, the new IBM PC emulation facilities provided by *pc-ditto* are akin to cultural shock.

True, it does not support the mouse; so there's none of this laid back clicking on icons that characterizes the ease of use provided by Digital Research's GEM interface on the ST. But in the future, the mouse will be supported so that you can use the full features of GEM PC and Microsoft Windows. For now, it's keying commands and making all the syntax and typo errors that are the hallmark of a hunt-and-peck typist like myself. Frustrating is one reaction, but another view will recognize the power, versatility, and flexibility provided by a command language. GEM, despite its ease of use and convenience, does have its limitations.

Bill Teal, the developer of *pc-ditto*, is an ex-IBM'er from the D.C. area. He has done a remarkable job in delivering a software emulator for the Intel chip. Hardware co-processing, ala the ATR 8000, is much easier to accomplish as well as more expensive. Developing a software emulator that performs like this one requires some real smarts. And you haven't seen all of them that Bill has. Apparently, he has a bundle of tricks up his sleeve that will raise a lot of eyebrows. So go all out to support this unprotected system. Else the effort will not be worth his time and we will not benefit from his clever innovations. If you like *pc-ditto* and don't own it yet, go out now and buy it! More goodies are on the way for its owners.

For those that have been initiated to MS DOS through the facilities of *pc-ditto*, I'll try to give some tips on how to get the most out of MS DOS on your ST. Mike Gibbons, elsewhere in the issue, will tune you to how and what *pc-ditto* can do. Putting aside the slowness of operation that is a consequence of emulation (and this will change), the ST offers several significant improvements over the IBM PC XT. First is the higher capacity 3.5" double sided disk drive that doubles the storage available on IBM's 5.25" drive. Second is RAM expandability beyond the 640K offered on the PC. This and the disk capacity are severe limitations to running large systems like PageMaker and Ventura Publisher on the PC. The ST provides a better vehicle for operating both of these systems. Third is the ST's color monitor which is sharper and crisper than the standard IBM color monitor. And of course there is the difference in price. After

running a few PC applications on your ST, it will really make you appreciate — even be ecstatic — about the architecture of the ST and what GEM really does for you. Now, let's get on with setting up MS DOS.

**Discovery — 3.5" Disks.** MS DOS 3.2 was the first version to support 3.5" drives. These drives have only been recently discovered by IBM and are defined as High Density. The older 5.25" drives, standard on PCs until the advent of the PS/2 series, had a maximum capacity of 360K from 40 tracks, 9 sectors each, double sided format. With 3.5" disks, the maximum capacity is 720+ with 80 tracks, 9 sectors, double sided. IBM also provides a 3.5" Quad Density floppy drive with 1.2 megabyte capacity. A similar drive will soon be available for the ST from Diverse Data Products in Miami. Their drive is currently running with 1.4 Meg capacity, and sometime in the Fall, they hope to have a 2 Meg unit running with utilities developed by David Becka, a lawyer of *Micro-C Shell* fame.

**DOS 3.2 & High Density Disks.** Although MS DOS 3.2 can handle the 730K density, it must be configured for this format since the default is still 40 tracks for the 5.25" floppy. To do this, a CONFIG.SYS file must be created on your DOS 3.2 disk. When booted, DOS first looks for the presence of this file and tailors the system according to the parameters that are specified. To set up the High Density configuration, with DOS 3.2 in Drive A, type the following at the A> prompt (which is shown in the example). Commands are not case sensitive, so upper or lower case will do.

```
A> COPY CON CONFIG.SYS
DEVICE=DRIVER.SYS
DRIVEPARM=D:0 /F:2
DEVICE=DRIVER.SYS
DRIVEPARM=D:1 /F:2
[F6]
```

The COPY command creates a file called CONFIG.SYS and then copies the ASCII text you enter on the CON(sole) — your keyboard — to this file. DEVICE equates the disk drive to the utilities provided by DRIVER.SYS. The drive parameters are then defined for D:0 (Drive A) and in the last line to D:1 (Drive B). The F:2 parameter defines the format of these drives as High Density or 730K (80 rather than the default 40 tracks). The above format, punctuation and spacing is correct. There are no spaces before

or after the equal signs. But a space before the /F:2 switch is essential. There must be no spaces between the statement and the [Return] key entry. The last line must be closed with the [F6] or Function Key 6. This generates a Control Z [^Z], an End-of-File marker, executes the COPY command, and writes the file. As you are working with copying to CONFIG.SYS, you will discover that each time this is done, it overwrites the previous file — it does not add to that file. Whatever you type must be the entire configuration set.

You can examine this file by typing the following at the A> prompt:

```
COPY CON CONFIG.SYS CON
```

This command copies the contents of the file (any ASCII file) to the CON(sole) which in this syntax position is the monitor. When CON is the subject, it's the keyboard. As an object, it's the monitor. PRN can be used in lieu of con to direct the file to your printer. But make sure it is on-line first. Sometimes DOS gets nasty with errors and may require rebooting the system. You can also use SHIFT \* print text. This is an ASCII character print and not a graphic screen dump. Using CTL \* [RET] will toggle the printer on and off. The asterisk must be the one to the far right of the keyboard over the numeric keypad. You may also use PRINT filename.ext PRN to direct a text file to the printer. Using TYPE filename.ext will display text in that file to the screen. In these examples, the file must be on the drive indicated by the prompt, otherwise the drive letter must be entered before the filename.

These newly created CONFIG.SYS parameters must be installed by the system, so simultaneously press CTL ALT and DEL to quit DOS. This returns you to the *pc-ditto* start-up screen where you press RET to re-boot DOS. Two messages should appear after boot-up to indicate that High Density drives C and D have been installed. C is Drive A, and D is B. DOS makes this equation and you continue to specify A and B in your commands. If you have a hard disk, identify it as E.

**Formatting and Copying.** With the system now configured, the FORMAT command will default to 80 tracks and 730K. This can't be used to format a 5.25" drive. (If this is a constant requirement use only the first set of DEVICE= and DRIVEPARM= statements for the CONFIG.SYS file.) If FORMAT B:/S is used, the 3.5" disk in Drive B will be formatted and the hidden DOS files in Drive A will be copied to the disk to make it bootable. The system takes over 64K of the available disk space. FORMAT alone will generate a disk with 730,112 byte capacity. The COPY command can be used to copy files to the new formatted disk. For example, COPY A:.\* B: will copy "all" files

from Drive A to B, but not quite all. This command will not copy hidden files or sub-directories. Since two of the critical system files are hidden, they can only be copied with the /S switch on FORMAT or with the DISKCOPY command. Both also copy sub-directories, or in ST parlance, folders. The DOS 3.2/3.3 XCOPY command will also copy folders, but not hidden files.

At this point, let me apologize to some for being so pedantic. This detail is provided in the pages of Current Notes for two reasons. First, the Avant Garde instructions are not clear in some instances, and there are a few minor errors in the examples. It took me several hours by trial and error, and reading three DOS books to finally succeed with this configuration file. Secondly, I've been on the phone with four different perplexed STers walking through this sequence. If nothing else, this should help a few that are struggling and save a lot of time on the phone.

**Single-Side 3.5" Drives.** What if you have single side 3.5" drives? DOS only supports 40 tracks on a single side drive. It cannot format or read 80 tracks from this type of device. I recommend that financial priorities be adjusted to purchase double side drives or possibly try upgrading your drive by swapping out the SS mechanism for DS one. This can be done with the ST Epson drives — the ones with an eject button on the lower right. However, this may not work with the Chinon or other type drives with the eject "tongue" under the disk slot. This style faceplate may prevent insertion of another drive mechanism. But do call some of the advertisers in Computer Shopper and other ST magazines to inquire. If double sided drives are a long shot, Avant Garde has provided a solution. Here's how to do it using *pc-ditto* utilities.

First you must make a single sided 40 track 3.5" disk which includes DOS. One method is to use a 5.25" 360K DOS disk to perform this function. To do this, go to the *pc-ditto* menu and define Drive A as EXTERNAL and then define the external drive as 5.25". Your 3.5" drive will automatically default to Drive B. Booting DOS from the 5.25" drive, format Drive B with the following command:

```
FORMAT B:/1/S
```

The /1 defines single side, and as you recall, /S copies the DOS system files to the formatted 3.5" disk. You will now have a disk with a capacity of 179,712 bytes. However, DOS 3.2 will take approximately 69K leaving 110,592 available on the disk.

Exit PC emulation and boot your *pc-ditto* disk. From the directory, drag the two files PC.DPMI.PRG and PC.DDRVR.SYS over to your newly DOS formatted disk. This procedure may sound strange, but as both Avant Garde and David Snall have previously pointed out, the ST and IBM formats are virtually identical. More on this later. Back to *pc-ditto* emulation. Boot your DOS disk containing the two transferred programs. Now you must configure the system by entering the following:

```
COPY CON CONFIG.SYS
DEVICE=PC_DDRVR.SYS
```





## 1040 ST Whine

Reprinted from Bay Area Atari Users' Group newsletter

Does your 1040 whine? When you boot up do you get the mosquito repellant? If so, this is for you. It is the *official* Atari 1040 1040 power supply fix for units with a high-pitched whine emitting from them. The problem is the switching power supply used for the RS-232 port. It is supposed to switch at around 18khz, but due to parts tolerance it sometimes falls lower than that, the result being an irritating audible "whine" or "squeal". It has falsely been described as a "drive whine" and defective power supply modules. The circuitry is actually on the motherboard. This mod also cures a video "flutter" which sometimes occurs. Faint horizontal bars float up and down the screen. If you are not faint of heart, here are the instructions for the modification.

**Note:** I do not recommend this mod if you are not familiar with electronics! You will be playing with the power supply, and if done incorrectly, you could fry your ST! I am providing the information so the folks who are out of warranty can do it themselves. Also, some dealers may not be familiar with the problem. I do not accept any responsibility for any permanent mushroom clouds you may cause. Okay, here goes:

Unplug everything, especially the computer, then take the case off your 1040ST. Remove the power supply module. It's pretty straight-forward, as there is a plus for the wires. Untwist the grounding tabs on the shield and lift the shield off the printed circuit board. The parts to change are on the motherboard, beneath where the power supply was, and to the right of the ROM's.

## Change:

Part No.	From	To
R17	1 Ohm	5 Ohms
L4	100 uH	220 uH
C28	100 pF	330 pF

Now, looking at the 1040 from the front, here is where the stuff is: R17 is a 1 Ohm resistor (brown-black) and sits below C26 (yes, that *is* a capacitor!). L4 is the resistor looking thingy (a moulded coil) to the right of the IC, a TL497. Its color code is brown-black-brown. The capacitor C28 is located

on the left of the IC, next to a larger black capacitor. Its color code is also brown-black-brown. While these locations should be accurate, please note that they could, and may, change at any time in your machine. It is very important for you to replace the correct components.

You will need a good soldering iron, solder, and a de-coldering vacuum bulb-pump, solder wick or braid. The replacement parts should have a tolerance of plus or minus 5%. If not, it's time for the service center! The only part which is actually hard to find is the inductor (moulded coil) L4. The part number 35F1885 and is called a Deci-Ductee. They cost around \$4 each.

Well, that's about it. Hopefully, after this point you will power up to a blissful silence and have saved \$\$\$ to boot! Good luck...

**Note:** This modification is to be performed at your own risk. If you're not sure what you're doing, don't touch anything. Get a tech to do it.

A good place to procure parts is Gateway Electronics, off of Convoy near Woo Chee Chong's; Industrial Liquidators, also off Convoy near Superouts, across from K-Mart; or, of course, Radio Shack.)

To execute this configuration, reboot the disk and enter: "ASSIGN A=C,B=D". Without the assign command, the special features of PC DFMT will not be available. If you want to increase your techno-stress, enter this command with a space after the comma, or omit the comma and use a space only. Also, don't use ASSIGN on your standard DOS disk. It kills execution of the regular FORMAT command. DOS will not format an assigned drive.

To use these special pc-ditto utilities, after the A> prompt, enter PC DFMT. This will present a menu screen where the UP and DOWN cursors move between menu items, and the LEFT and RIGHT toggle selections in each item. For those that have High Density support with DOS 3.2 or 3.3, these utilities will be of little value. But for those with single sided drives, this is your only hope. Identify your target drive as A or B (not C or D), and select 80 tracks, 9 sectors, 1 side. You may also elect to copy DOS

to the disk you are formatting. Then press F5 to execute. Sometimes DOS gets cranky and doesn't recognize the drive. Just keep pressing an R for Retry and it will eventually execute. H when completed, it may not return to DOS; so a "warm boot" will be needed. When formatting multiple disks, you may get "Fatal stack error". This one is indeed fatal, and a reboot from pc-ditto will be required. However, the above ASSIGN format should not produce this problem. The formatted disk will contain 362,496 bytes. With DOS 3.2 copied, it will leave 292,864 available -- the same as for a standard double sided 40 track disk. PC DFMT.SYS allows you to use this nonstandard single sided 80 track disk. Avant Garde has been sensitive to the needs of users with SS drives and has provided a solution that works. You're in business.





## RANDOM THOUGHTS

by Rob Re

THE MEGA'S ARE HERE - Well, the Mega's are finally in the stores. At least one dealer I talked with indicated that sales of the Mega ST4 have been slow. That does not surprise me. First of all, knowing typical Atari users, I expect that the Mega ST2 will be the bigger seller, especially if it uses the same board as the Mega 4. After all, if the space is already there on the board for 2 megs more memory, then it will be the logical choice for us loyal Atari users. After all, we all like to save money and get inside our machines. I for one could get along with 2 megs for a while until the price of meg RAM's come down and then upgrade. Let's hope the rumors are right that the same board is used in both Megas.

The second reason I see for initial slow sales of the Mega's is Atari's rumored desire to discourage discounting the new models. Whatever their reasoning, even if it is good, most of us just can't bear to pay list price on any Atari related product. It is just not done! (OK, so a few of us paid list price for the initial user group buy of 520ST's, but we paid the price to be the first on our block and we let our impatience get the best of us.) I think sales will take off when the price comes down a bit and when the laser printer is released. Another factor that should also help is the release of software and hardware that will take advantage of the available RAM and expansion capability of a Mega -- in other words, a real reason to upgrade to these more costly machines. I plan to upgrade to a Mega in the next few months, but not all users are like me and have to have the newest and best. I think most people have to have a good reason.

BIGGER AND BETTER HARD DRIVES - Atari may come out with higher capacity hard drives to go along with the Mega machines, depending on who you talk to at Atari. If they do, they will be packaged in boxes the same size as the Mega units in sizes up to 80 megs. And to think that we used to be happy with those good old 90k drives on our 800's. Times have changed.

AND THE LATEST ON THE LASER PRINTER - Well, first and most obvious is the fact that the laser is not out yet. It looks like it should be out any time now at a price of \$1500. It will come with a Diablo emulator so it will run text directly or print graphics via GEM. Other printer emulators should be out soon also, the first being for Epson. One Atari source I talked to indicated that the interface box for the laser printer is set up so it can run with a number of laser engines. I

guess this means we could be seeing laser engine changes like we are seeing now on the monitors. (latest monitor is Samsung!)

AND THE LATEST ON EMULATORS - Well we already have CPM, Mac, PC, and 8-bit emulators, and now it looks like the Apple IIe emulator is almost ready - just think, an Atari ST IIe. If nothing else, now the ST will have access to all the educational software that is available for the Apple. Any guesses on the next emulator? Maybe a 2600 or a reeeeeeally slow Cray.

NEW PERSONAL PASCAL FINALLY OUT - OSS has finally shipped version 2 of Personal Pascal, and the new GEM based editor is a killer. It looks like it scrolls faster than even ST Writer. It allows up to 3 text files to be open at the same time and easy cutting and pasting between them. Other improvements include easy access to disk operations such as disk copying and deleting, and improved compiling speed. Of course there is a trade off in that a one meg machine is needed for any serious work. The new revised manual is twice the size of the original and is fully indexed. This product when combined with a product called TACKLE BOX ST, (basically a Pascal version of the developers docs) make up an interesting alternative to the C languages available.

HABAVIEW RETURNING? - It looks like a new reincarnation of HabaView is coming from Regent Software. The original program was a nifty and easy to use database. In fact, I still use it myself. But it was not very powerful, allowing only mailing label and column forms to be printed. Then came Regent Base, which was promised to be the ultimate GEM based database. I still haven't figured out how to use it, and I do not know anybody else who has either. Well, now Regent seems to be releasing something in between - a new version of HabaView. Though it is not relational, it looks like it offers flexible report printing and even allows graphics to be included in the records. The product, to be called The Informer, is due out "soon".

ATARI ADS HIT THE AIRWAVES - You may have seen the new Atari ads for their new XE game machine. Well, it seems that ads for the ST are also being shown. Atari must be doing pretty good to start springing for TV ads now.

MARBLE MADNESS OUT!!! - Electronic Arts finally heard us and released marble madness. The graphics are pretty good (not as good as the Amiga though - corners cut in programming I am sure), but play is good and tough. The last level is a killer. If you liked the arcade version, you will probably like the ST version.



## FLASH! COMES OF AGE

As a long time user of communications, I've long awaited the day a truly good communications package would come out for the ST. Sure, I was using Flash 1.12 (and earlier) for my BBSing, and Uniterm for doing terminal emulations, but both of those lacked the polish and attractiveness of packages running under MS-DOS. With one package running under MS-DOS, I could take care of all my telecommunicating needs and love the program I was using to do it.

It was to my surprise that I read a new release of Flash had come available from Antic. I quickly took a run down to the Antic office and slapped my disk down. What they returned was a new disk which looked (physically) exactly like the old one. Well, I couldn't expect too much.

Things that I had grown to miss or dislike in Flash included:

- o Lack of good DEC VT100 emulation
- o Lack of free memory after loading Flash
- o No modem initialization string
- o Only accepts one modem connection fail string
- o Only redials 99 times
- o Didn't support true Ymodem transfers
- o Insufficient command language
- o Wimpy text editor

Loading Flash 1.51, I noticed that it looked pretty much like the old one, to my dismay. But after reading the documentation included on the disk, it seems many of my gripes had been addressed!

The VT100 emulation was cleaned up, and more features are now supported. I tried calling up the VAX with it and now feel the emulation is good enough that I don't have to use Uniterm all the time (Uniterm still supports almost all VT100 functions which is more than Flash).

A new FREE command has been added. Since Flash likes to take over every last bit of memory one has, accessories that need memory later will choke when accessed from inside the old Flash. The FREE command allows memory which was reserved for the capture buffer to be deallocated so that other applications can get memory. Very useful.

The dial attributes have been changed. Now, four modem connection fail strings can be entered. The fail strings are what your modem returns when a call fails during dialing. The original supported only one, set to NO CARRIER usually. This worked fine, but when redialing, the program would wait for the modem to time out before redialing. Now, if used with a modem that supports call progress detection, redials can be made at the rate of 500-600 per hour! Which leads me to another gripe...

The number of redials which can be performed is limited to

99... After about ten minutes of redialing, it just stops! Argh! This hasn't been fixed in the new version.

Ymodem file transfer protocol is now supported. When calling a BBS with Ymodem, if you want to receive all the files, you can select \*.\* and all the files will be sent and named properly on your end in one transfer. Very useful.

The command language has been enhanced, and is now capable of interactive DO files. A DO file is a list of commands which can automate the operation of the computer; now input from the user can be made at runtime.

The text editor has had word wrap added, so that when one types past the end of the line Flash automatically adds a return in an appropriate place. The text editor is otherwise simple and easy to use, and very handy to have built in.

The capability to execute programs from within Flash is nice, too. While online a user can drop into a command line and navigate his hard disk to find exactly the file he wanted to upload. The capabilities of this feature are limitless.

There still isn't a modem initialization string. As this didn't really hamper me in earlier versions, I still get by without it. The AUTO command helps out here. What one can do is tell Flash a command to execute after booting. Since this is only one command, it can't do much, so what I did was create a file called INIT.DO which contained all the commands I wanted executed after booting up Flash. Then, I made "DO INIT.DO" as my AUTO command, thus getting everything done without typing it!

All the old features of Flash are still available. For those of you not familiar with it, Flash is THE program to use for ST telecommunications. Some of the features supported are: menu, command line, or hotkey driven; built-in text editor; access to desk accessories; supports different terminal emulations; on-screen clock and call timer; full file transfer capabilities; 20 user definable macros; I/O translation, and much more!

Flash is beginning to stand on its own in the telecommunications world, and version 2.0, which will be released next year, should be great. It's backed by what is one of the largest software houses for the ST. If you don't use Flash for modeming, I highly recommend it.

*Flash is available from Antic Software, 544 Second St., SF, CA and through most ST software retailers. If you have an older version of Flash, an upgrade is available by sending your original disk plus \$5 to cover shipping and handling to Antic. This includes the manual updates on disk. A new manual will be made available with Flash 2.0.*

--Dean Brunette



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## ABACUS MEETINGS

ABACUS meets (usually) on the first Saturday of each month at The 19TH AVENUE DINER, 1201 19th Ave. (right next to Golden Gate Park), San Francisco. Attendance is free and open to everyone. We meet on the 2nd floor. 10:00-1:00 for 400/800/XL/XE owners. 12:00-3:00 for ST owners. Please park on the street. DO NOT PARK IN THE DINER'S LOT. (Call 753-8483 for meeting details.)

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## ABACUS MEMBERSHIP

Dues are \$15 per year. This includes the newsletter, discounts on group buys of hardware and software, low cost blank disks, and low cost public domain software. You do not need to be a member to attend meetings.

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## NEWSLETTER ARTICLES

Articles are preferred on disk or via the BBS. If printed, they should be in dark print; 3.5 inch columns; 15-18 characters per inch; 60 characters wide.

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